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Evaluation of Health Education Practices*

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Health Education—What Is It?

We cannot talk about evaluating health education practices unless we have some agreement as to what health education is and what health education programs are. For the purpose of this short presentation then, may I define both so that you will know what I am talking about and have a basis for differing with me if you so desire.

To me, health education is a process of growth in an individual by means of which he alters his behavior or changes his attitudes toward health practices as a result of new experience he has had. These experiments may be varied. They may be provided in a well-child conference or a tuberculosis clinic; the school has a thousand different experiences which, if used, could bring about changed attitudes toward health in the entire school population; committees of citizens laboring together in analyzing what their communities lack in hospital or clinic facilities may be motivated to obtain what is needed; a pamphlet on disease prevention or treatment may, for some people with special problems, provide the impetus to take a needed step; a motion picture may give an explanation of cause and effect which resolves a problem for a confused mind. All of these are experiences which may be used for teaching and cause people to change their ways of thinking and behaving in matters of health. These changes are what is meant by health education.

The health education program of a health department, therefore, consists of developing opportunities and experiences which motivate people to change. Evi-

dently the job is one for the whole department—since physicians, nurses, sanitarians and other specialists in the health department team are as much interested in seeing new attitudes toward health practices as is the health educator. The specialized training of the health educator, however, enables him to give help to others in analyzing their educational techniques and trying out new ways. Thus a report on the health education activities of a health department should include the various opportunities which each of the divisions is organizing to promote growth among staff members or growth among the particular persons in the community with whom each professional group works. The ideal report, of course, would include an account of all the learning experiences which other agencies of the community are providing in the health field. For health education cannot be hemmed in or tied down to just one public agency, the health department.

Educational Functions of a Health Department

A health department might well take an inventory of the degree to which it is carrying on an educational program. A list of questions, something like this, might be discussed in a staff meeting:

1. What methods are now being used to inform the public concerning the work of the health department and gain budgetary support for an expanded program?
2. What provisions for staff growth are being made in each division? Is each division using staff meetings as an educational medium or only for administrative purposes; are institutes for workers well planned; are scholarships being given to staff members who will

* Presented at the University of California Institute on Evaluation of Public Health Practices, February 3, 1948.

profit most by the experience and give most to the program on completion of work?

3. What working relationships have been established between the health department and the schools? Is the staff making the most effective use of its time in these relationships? Is it a new-fashioned or an old-fashioned program?

4. What situations are being developed in which adults may study and plan programs for health which meet their particular needs?

5. At what levels of the community social structure are the efforts of the health department staff focussed in their group work? Professional workers—luncheon clubs—club women? Who that is important to the health of the community is left out?

6. What types of activities are being developed with other agencies such as agriculture, welfare, P.T.A., and farm groups?

7. Toward whom are the information programs aimed? Is the present use of staff time in giving lectures, showing movies, issuing bulletins and pamphlets reaching the people you want to reach?

This inventory necessitates that each educational approach be evaluated separately in terms of: (1) What are the pressing health problems? (2) Is this approach directed at the right people to solve the problems?

The health educator on the staff can give help to the health officer and other staff members in evaluating the department's health education program along these lines.

Measures of Program Effectiveness

An inventory like this will give a department an idea as to whether it has a lopsided educational program or one that is planned to accomplish certain objectives. A self-evaluation schedule of this type made by the entire staff of its own educational activities is a basic starting point.

Now we are ready to measure the effectiveness of each of the programs we are conducting. Alas! For many programs no data are available to tell us whether we are on the right track or not. It would appear that health departments send staff members away for training without making any attempt to assess the changes, if any, that took place during training. Does the nurse, or physician, or health educator on his return to the job display more competency in information and skills, better relationships in dealing with people, greater comprehension of the over-all picture of the field? Or has the training only added an increment to civil service status? Such studies might well be undertaken if we continue to give scholarships for graduate study.

How valuable, too, are the institutes which are held by various divisions? Does six months' or a year's time reveal that the institute served some function that could not have been taken care of through written materials or consultation services? I believe that institutes of certain kinds are of value. We have, however, only a scattering of accounts telling of new efforts which were initiated following an institute to prove it.

Evaluation Techniques

There are evaluation techniques, however, that aid us in measuring the effectiveness of some of the aspects of the education program of the health department. These are: (1) the use of an evaluation schedule both before an education program is instituted and its re-use after an appropriate lapse of time (one or two years); (2) the use of current records which will indicate the types of activities undertaken in the health department and the growing scope of the education program; and (3) special studies of the various educational activities in clinics, group teaching and departmental functioning by means of which the health officer and his staff may get insight into the effectiveness of this procedure versus that—and have firmer ground on which to plan future programs. I will cite examples of each of these types of studies.

An adaptation of the evaluation schedule which permits committees of citizens to analyze the health facilities and services which their community possesses becomes a two-edged instrument. One edge yields data against which progress can be measured at a later time. The other edge yields the fruits of citizen education and citizen action which come about when committees are responsible for making the analysis. The health educator is the staff member who carries a large share of the load in helping committees develop and use the schedule.

The use of current records to evaluate a program may be illustrated by the monthly report on health education activities which the California State Department of Health is trying out experimentally on a voluntary basis. The form of the report is new. It seeks to obtain information about all phases of the educational program. This is not simple since this means that all of the professional workers in a health department must recognize and report on their educational programs. It calls for staff education under the leadership of the State Department of Health.

In the California report are items which emphasize the increasing participation of staff members in community planning groups, the active versus static type of committee work, the assistance given to community agencies in planning their programs versus furnishing

them incidental lectures or films; the use of a variety of in-service training techniques versus "staff meetings" alone and the emphasis on the preparation of current teaching materials (including bulletins and manuals) by local health departments. All items give data on a virile, active, changing educational program which includes all members of the health department staff.

The Area of Special Studies

It is from the area of special studies, however, that we get the greatest help in improving our educational practices. The number of studies now available is small. We need more. We need studies of the methods we are using and their effect upon people's learning.

One technique growing in popularity is that of the poll. Although limited in application the poll gives us information concerning certain phases of our programs. For example, a poll conducted by Guernsey in an eastern city showed that whereas 70 percent of the people interviewed knew that prenatal care should be started between the first and third months of pregnancy, they did not act on this knowledge. Further questioning revealed that the administrative and clinical techniques prevailing in the hospital clinics were the deterrent factors in seeking early care. The poll showed where the breakdown in service was occurring.

Another special study conducted in New York City was focussed on the educational implications of the health services being given to school children. A series of investigations of the minutiae of the program revealed conflicting, duplicating, and ineffective procedures of educating parents, teachers and children to use health facilities and services. The results of the study enabled administrators and their staffs to develop new and specific programs for case-finding, diagnosis, educational supervision and medical guidance. It was shown that the vision, hearing, dental, cardiac, and nutrition programs demand differentiated policies and procedures if they are to be effective.

Some of the most provocative recent investigations are directed at the very heart of our educational techniques. Which is more effective—lecturing to a group or conducting a session of discussion in which all members participate? Which results in a larger percentage of people changing their behavior—individual teaching or group teaching? The most informative studies on these points come from the experimental work done during the war on nutrition teaching. Bavelas has shown that whereas only 3 percent of the women tried out a new dish on their family after listening to excellent lectures on serving of meats never served before; 32 percent introduced at least one of the dishes after a group discussion leading to a group decision. Marian

Radke points out the superiority of group decision in an experiment involving teaching the use of fresh and evaporated milk. She found, moreover, that the group decision technique led to the retaining of "changed" behavior after a lapse of several weeks. Still another experiment showed that instructing mothers individually about baby feeding gave less favorable results than teaching a group of six mothers. Such studies by sociologists, psychologists, social anthropologists and health educators make us increasingly aware that these social scientists must be used to a far greater degree by health departments than heretofore in helping us analyze the subtle factors which influence learning. Until we understand more about people we can hardly hope to increase the effectiveness of much of our work.

In conclusion then, it may be pointed out that we now have several approaches to the evaluation of the effectiveness of our public relations and health teaching programs. The technique of the survey or evaluation schedule will bring in the citizens to stand at our right hand to support and evaluate our over-all health programs. The technique of the monthly report gives a record of week-to-week development of new strengths within the department. The technique of the special study places under the microscope the specific procedures we are using in our educational work and shows them up for what they are.

Each must be directed to the objective it best serves. All of them serve to keep a health department on its toes and alive to the fact that research is basic to growth of staff and improved health practices by the public.

School Essay Contest

A \$1,000 prize essay contest for students 18 years of age and under is currently being sponsored by a Los Angeles group of "Friends of Youth."

Topic for the essay: "Reasons Why It Is Unwise to Use Tobacco."

Registration forms, available from 812 Maltman Avenue, Los Angeles 26, should accompany each essay. Further details may also be obtained from the above address.

The \$1,000 will be divided among the authors of the 57 best essays. The top winner will receive \$150.

Essays may be of the conventional type or in the form of radio scripts, news stories, or poems. Illustrations are acceptable.

Contestants will be classified into three groups: (1) elementary, (2) secondary and (3) senior high school and junior college, according to school rank.

Prize money was donated by Mrs. Clarence Gasque. Supervising arrangements is Miss Grace George.

Board Appoints Consultants, Advisory Committees for 1949

The State Board of Public Health at its December meeting appointed the following advisory committees and consultants for 1949:

Clinical Laboratory Technicians' Advisory Committee

Northern Committee: Paul G. Hattersley, M.D., Lucien D. Hertert, Herbert G. Johnstone, Ph.D., Kathryn Grundman, Paul Guttman, M.D.

Southern Committee: George D. Maner, M.D., A. G. Foord, M.D., John F. Kessel, Ph.D., Mrs. Leo F. Pierce, Maxine Wertman.

Advisory Committee on Hearing Conservation

John Mackenzie Brown, M.D., W. D. Currier, M.D., David Higbee, M.D., Wm. H. Johnston, M.D., Nelson S. Keeler, M.D., George Keiper, M.D., Aubrey Rawlins, M.D.

Heart Advisory Committee

S. J. McClendon, M.D., Louis E. Martin, M.D., William Paul Thompson, M.D., Charles A. Noble, Jr., M.D., Howard Bosworth, M.D.

Advisory Committee on Sanitarians' Standards

Walter Mangold, S. F. Farnsworth, M.D., Edward L. Russell, M.D., Thomas McMorrow, H. C. MacMillan, Charles Senn.

Vector Control Advisory Committee

Charles Senn, W. B. Herms, Sc.D., John J. Sippy, M.D., Harold F. Gray, Edward L. Russell, M.D., S.B. Freeborn, Ph.D., Tracy Storer, Ph.D.

Advisory Committee on School Audiometry

W. D. Currier, M.D., Nelson S. Keeler, M.D., Vern O. Knudsen, Ph.D., Vivian Lynndell.

Field Training Advisory Committee

Edward S. Rogers, M.D., Harold B. Gotaas, Sc.D., Roy O. Gilbert, M.D., Margaret Tracy, Lulu K. Wolf, Verne S. Landreth, Ira O. Church, M.D.

Advisors to Committee: W. T. Harrison, M.D., Edith P. Sappington, M.D.

Subcommittee Consultants to Committee: Dorothy Nyswander, Ph.D., Walter Mangold, Judith A. Davies, James D. Garrigan, Emmanuel Pearl, Wilma Becknell, Levitte Mendel.

Advisory Committee on Dental Health

John R. Abel, D.D.S., Harry Hambly, D.D.S., James W. Hixson, D.D.S., E. Frank Inskip, D.D.S., Melvin E. Ralston, D.D.S., Clarence E. Rutledge, D.D.S., Clyde C. Sheppard, D.D.S., John B. Wilson, D.D.S.

CONSULTANTS

Adult Health: Rutherford T. Johnstone, M.D., W. P. Sheppard, M.D.

Animal Industry: George H. Hart, D.V.M.

Bacteriology: John F. Kessel, Ph.D., E. W. Schultz, M.D., R. V. Stone, D.V.M.

Cerebral Palsy: Kenneth Jacques, M.D., Margaret Jones, M.D.

Entomology: W. B. Herms, Sc.D.

General: Karl F. Meyer, M.D.

Health Education: Walter Brown, M.D., Dorothy Nyswander, Ph.D., W. P. Sheppard, M.D.

Health Education (Motion Pictures): Walter F. Wanger.

Health Education (Radio): W. B. Ryan.

Hospital Administration: Anthony J. J. Rourke, M.D., Richard Stull.

Ophthalmology: Frederick C. Cordes, M.D., LeRoy Abbott, M.D., Charles LeRoy Lowman, M.D., John C. Wilson, M.D.

Parasitology: Herbert G. Johnstone, Ph.D.

Public Health Statistics: E. L. Lucia, Ph.D.

Rheumatic Fever: Harold Rosenblum, M.D.

Tuberculosis: F. M. Pottenger, M.D., S. J. Shipman, M.D.

Virus Laboratory: Henry B. Bruyn, M.D.

Local Health Officer Changes

Five communities have recently come under the public health supervision of their respective county health departments.

In **Fresno County**, the Cities of Kerman, Fowler and Orange Grove are under county supervision. Former health officers of the first two areas are Dr. J. C. Drake and Mr. Lewis H. Fearnside. The City of Orange Grove is newly incorporated.

In **Napa County**, the Cities of Napa and Calistoga came under county supervision. Napa City's former health officer is Dr. Robert S. Northrop. Mr. George C. Locey was formerly health officer of Calistoga.

Dr. Donald J. Bleiberg is the newly appointed health officer of **Plumas County**. He replaces former health officer Dr. Edwin W. Godfrey.

Morbidity Reports to Berkeley

All morbidity reports addressed to the State Department of Public Health should now be sent directly to the new Bureau of Disease Control headquarters in Berkeley.

Mailing addresses on all morbidity report cards should be changed to read:

Collaborating Epidemiologist
U. S. Public Health Service
State Department of Public Health
2180 Milvia Street
Berkeley, California

Sorority to Sponsor Vocational Guidance Program

A program for training vocational guidance workers and job placement technicians specializing in the employment problems of persons disabled by cerebral palsy and other multiple handicaps has been announced by Alpha Gamma Delta, international women's college sorority, and the National Society for Crippled Children and Adults, Chicago.

Lawrence J. Linck, Executive Director of the National Society, said that the sorority, through its 59 undergraduate and 100 alumnae chapters throughout the United States, will provide an annual grant of \$5,000 for a limited number of in-service-training fellowships to be awarded by the national society.

By surveying public or private counseling and placement agencies, the national society will develop agreements for the training of workers among those agencies able to conduct intensive programs for the cerebral palsied and physically handicapped. Fellowship candidates will be selected on the basis of professional qualifications and competence. Grants will cover expenses, including tuition.

First Six Months of New Occupational Disease Tabulation

Tabulation of occupational disease reports received by the State Department of Public Health for the first six months of 1948 show a total of 8,055 cases reported by physicians. Of this number, 2,356 lost time from work, 4,816 were reported as not losing time from work and for 874, loss of time from work was unspecified.

These figures were taken from reports of physicians submitted to the California State Department of Industrial Relations. They were tabulated by the State Health Department following a new system inaugurated this year. The tabulation system now being used seeks to list the diseases in such a way that relationships of occupational disease to all disease, all areas of the State, all industries and all occupational hazards may be visualized. For those interested, a complete copy of the report from which this resumé is taken as well as a description of the coding system may be obtained from the Bureau of Adult Health, 2002 Acton Street, Berkeley, California.

Occupational disease of all types occurred in California, in all industries, to some extent in all counties but one, and from all but two of 41 classes of occupational hazards in the period studied.

The largest number of reports came from those industries employing the greater number of persons: Construction, 739; Food and Kindred Products, 708; Agriculture, Forestry and Fishing, 601; Government Employment, 661, and the Service Industries, 598.

The greatest number of reports were for dermatitis, conditions of the eyes (including radiations and chemicals splashes), and injuries to soft tissues such as strains, sprains, bursitis, tenosynovitis, etc.

Industrial accidents were not tabulated—nor are all occupational conditions reported.

(All disabling industrial injuries in California are tabulated by the Division of Labor Statistics and Research of the Department of Industrial Relations, 965 Mission Street, San Francisco 3. A recent analysis by county has been published.)

Mosquito Subvention Funds

Additional subvention allocation funds during the present fiscal year for three mosquito abatement districts have been granted by the Bureau of Vector Control.

The districts are:

1. Sutter-Yuba	\$4,735
2. Madera	2,500
3. Consolidated (Fresno County)	8,960

California Industrial Health Positions

The California Department of Public Health, Bureau of Adult Health, has vacancies in the following positions in the industrial health program. Potential applicants may obtain further information from Dr. Herbert Abrams, Chief of the Bureau, 2002 Acton Street, Berkeley, California.

1. Public Health Medical Officer, Grade 2—\$530-644. Graduation from an approved medical school and completion of an internship in an approved hospital, and at least three years of full-time public health medical experience.

2. Assistant Industrial Hygiene Engineer, \$341-415. Graduation from college with major work in engineering and two years of general engineering experience, one year of which shall have been in public health engineering.

3. Industrial Hygiene Nursing Consultant, \$295-358. Graduation from college and completion of a one-year university course in public health nursing and at least a four months' specialized course in industrial nursing, and in addition four years of experience as a public health nurse at least six months of which shall have been in industrial nursing.

4. Senior Public Health Analyst, \$310-375. Equivalent to graduation from college with courses in statistics and two years' experience as a vital statistician with responsibility for interpreting data in a full-time public health department.

Work involves studies of causes and control of occupational diseases, including field work, clinical and laboratory investigations.

Practical Nurse Licensing Bill Prepared for Legislative Action

With the 1949 regular session of the State Legislature at hand, you can expect to see in these pages in coming months summaries and reports of action on all important bills presented which relate to public health.

The first of these to come to our attention is a bill to be sponsored by the California Nurses Association which would provide for the licensing of practical nurses and create a class of nurses identified by the letters L. P. N. (licensed practical nurse).

As proposed, practical nurses would be licensed by a State Board of Practical Nurse Examiners (to be created).

People on the Move

Since April, 1940, about half of the entire population of the United States has changed living quarters, according to the U. S. Census Bureau. It estimates that 12,000,000 persons moved to a new state, 13,000,000 moved to a new county in the same state, and 44,000,000 changed houses within the same county.

Doctor Calls for "New Approach" to Management of Leprosy

"A new approach to the matter of isolating victims of leprosy" has been called for by Dr. G. W. McCoy, a well-known authority on this disease, in the November 19, 1948, issue of *Public Health Reports*.*

Newer knowledge of leprosy and its treatment, Dr. McCoy points out, makes unnecessary the routine isolation and commitment to a leprosarium of all cases of the disease diagnosed. Cases might be considered from the public health point of view to fall into one of the following groups:

No special consideration—noncommunicable cases in the areas where transmission is unlikely.

Home isolation or general hospital—any cases in areas where transmission is unlikely.

Special hospitals—communicable cases in areas where spread is likely to occur.

California, in the opinion of Dr. McCoy is an area in which leprosy is only "feebly communicable." Only 23 cases have become infected in this State of 600 reported, the remainder having been infected abroad—chiefly in Mexico, China and the Pacific Islands including Japan.

"We hope that by now," the doctor states, "the routine control procedure—isolation of all cases of leprosy regardless of the possibility that some patients may not be a menace to their associates—has been discarded. This indiscriminate manner of dealing with this disease can be dropped without regret as there is no substantial evidence that it aided in controlling the infection. The use of the newer and more promising therapeutic agents * * * prompts the adoption of newer procedures that will bring cases under observation earlier in the course of the disease when the result of treatment ought to be more favorable.

"Of course, the attitude of the general public must always be considered; this attitude has largely influenced the practice of health officers. We must educate the public in the realities of the problem."

Laboratory Licenses

Following recent examinations, the State Board of Public Health in December approved licenses for 173 clinical laboratory technicians, five clinical laboratory technologists, and 21 public health laboratory technicians.

"* * * what we do for the health of our children and youth today will influence the whole world tomorrow."—*Dr. Martha Elliot*

* *Leprosy: Factors in Public Health Management*, p. 1522.

New School Bulletin Issued

The U. S. Office of Education has issued a new bulletin which will be of value to all concerned with school health programs.

The publication, *Teacher Education for the Improvement of School Health Programs*, is by Frank S. Stafford and H. F. Kilander. It is a summary report of two demonstration workshops with the main emphasis on suggested standards for the professional health education of teachers.

Copies may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., for 15 cents.

New International Disease List to Be Distributed

The new *International Statistical Classification of Diseases, Injuries and Causes of Death* will be used for statistical coding by the State Department of Public Health beginning January 1, 1949. This listing, developed through the World Health Organization, replaces both the *Manual of the International List Causes of Death* (Fifth Revision), 1938, and the *Joint Causes of Death* (Fourth Edition), 1939.

A supply of the codes adequate for distribution without charge to each local health department and medical school and university library within California have been ordered by the State Department of Public Health. However, copies will not be available from the W. H. O. until sometime around February 1, 1949. Distribution will be made as soon as the publication is received.

The Bureau of Records and Statistics offers consultation and further information concerning the new list and its use.

Department Conducts Health Survey of State Colleges

A study of medical services and facilities at nine California state colleges has recently been completed by the Bureau of Adult Health, State Department of Public Health.

The survey, requested by the State Department of Education, sought to determine the needs of the various student health services, to discover how those needs are being met, and to make recommendations which may be used in future planning.

Colleges covered in the study include Humboldt, Fresno, San Francisco, Los Angeles, San Diego, San Jose, Sacramento, Chico, and California Polytechnic at San Luis Obispo.

Logging Most Dangerous Industry in State

War veterans employed in the woods and saw mills are confronted with greater dangers than at the battle fronts, according to the December issue of the *California Safety News*, published by the State Department of Industrial Relations. According to the experts, lumbering and logging is the most deadly industry in the State. One in five of these employees was disabled last year and one in 553 was killed. These experts also state that most of these casualties could have been avoided, if the present provisions of the State Safety Orders had been applied and enforced by the smaller operators in the woods.

To prove their contention, they point out that the steel and cement industries, formerly among the worst, now rate the safest of occupations. The frequency of accidents in these two groups for last year, was one-tenth of that of wood workers. This reduction in accidents was obtained by a nation-wide accident prevention campaign conducted within the industries.

Statistics issued by the Division of Labor Statistics and Research show that out of the 34,000 men employed in cutting and processing lumber, 6,456 were disabled and 69 killed. The principal causes of these injuries and deaths were the improper use and the unsafe condition of such tools as chain saws and drag saws. The most serious accidents in the mills originated from the large rip and slash saws, where arms and legs were amputated and several men were cut in half. Falling logs in the woods and from trucks also claimed a high toll of casualties.

25-Year Awards for Four L. A. County Health Department Members

Diamond-studded service pins denoting 25 years of service were awarded four employees of the Los Angeles County Health Department at the annual meeting of that department's employees' association held early in December.

The 25-year awards were given to Paul Ballinger, director of sanitation; Dr. Adele R. Eiler, director of maternal and child health; Dr. Eugene F. Fonaine, East Los Angeles district health officer; and Dr. J. M. Furstman, Santa Monica district health officer.

The practice of awarding pins purchased from membership dues of the employees' group was started in 1934. In this period, 14 people have received 25-year emblems.

The U. S. Office of Education estimates that 29,000,000 boys and girls were enrolled in elementary and secondary schools in 1947. By 1955, this number will probably reach 35,000,000.

Third Occupational Health Bulletin Issued by Department

The third in a series of occupational health bulletins—this one on *Carbon Tetrachloride Poisoning*—has been issued by the Bureau of Adult Health, State Department of Public Health.

This subject was chosen since the increasing use of organic solvents in industry increases the need for protective measures to prevent toxic reactions from this group of useful but dangerous chemicals. Carbon tetrachloride, because of its non-flammability and efficiency as an organic solvent, has wide application in industry as a metal degreaser, rubber solvent, dry cleaning fluid, fire extinguisher, and a host of other uses. Like many other useful agents, it is not always handled properly. Underlying this fact are 19 cases of tetrachloride poisoning reported by physicians to the State Department of Public Health in a recent six-month period. Undoubtedly there were additional unreported cases.

Contained in the new bulletin are a description of the chemical's properties, medical aspects, prevention and treatment.

Copies may be obtained from the Bureau of Adult Health, 2002 Acton Street, Berkeley, California.

Previously issued in this series were bulletins on *Agricultural Insecticides*, and *Lead Poisoning*.

Additions to the Film Catalogue

Recent additions to the film library, Bureau of Health Education, State Department of Public Health:

Sound Films—16 mm.

GENERAL USE—NURSING

THIS WAY TO NURSING. Time, 20 minutes. A nursing recruitment film designed to give young women some understanding of the duties, responsibilities, and satisfactions of nursing as a career. Reviews the training program of a modern metropolitan nursing school as an example. Well done, and particularly suited to high school and junior college groups.

Professional Use

DENTISTRY

DENTAL AMALGAM. Color; time, 10 minutes. An excellently conceived professional film which demonstrates the preparation of cavities for amalgam filling with emphasis on techniques to prevent moisture contamination.

Mental Health

FEELING OF HOSTILITY. Time, 32 minutes. A second in the *Mental Mechanism* series produced by the Canadian National Film Board. As in *The Feeling of Rejection*, a case history of a young woman is dramatized. Shows the factors which produced hostility and resentment in the personal relationships of this individual. The film, in showing causes, encourages a wider familiarity with a problem which is all too often a source of friction. In the final few minutes of the picture, the case history and salient points for discussion are reviewed.

This film is primarily intended for use by psychiatrists for showing to groups of patients. May also be used in college courses in psychology, social service, nursing, teacher training, and other courses. Suitable for parent audiences if accompanied by a competent speaker. Not recommended for showing to general interest audiences unless accompanied by such professional explanation.

Dentists Issue "Word of Caution" on Fluorine Treatment

(The following statement was adopted unanimously at the fifth annual Seminar for the Study and Practice of Dental Medicine held during October in Palm Springs, California.)

This is a word of caution as to the possibility of preventing tooth decay by the use of fluorides.

Recent studies indicate dental decay may be reduced through the application of sodium fluoride to the teeth of some children. Fluoride treatment must be considered in the process of investigation and is to be used only as an adjunct along with all other accepted procedures such as oral hygiene, a proper nutritional program and regular care by a dentist. Because it is in the experimental stage a false sense of security should be avoided. Treatment should be under the supervision of dentists wherein they can observe the value of the treatment to each individual case and not allow damage to result where the fluoride is not effective. Present evidence has shown that the application of fluorides will not be effective on cavities once they have begun. Stress must be placed on the patient's responsibility and cooperation by reducing refined carbohydrate consumption and by proper home care.

Further research remains to reveal the utmost potentialities of fluorides in health.

New Chemicals Tested on Mosquitoes in U. C. Study

There are 35 species of mosquitoes in California of which 10 are considered fairly serious pests. No two of them show the same reaction to insecticides. This is the first finding in a survey of California mosquitoes, their habits and their control, made by Dr. Richard M. Bohart of the Entomology Division of the University of California College of Agriculture on the Davis campus.

The number of chemicals suggested by manufacturers for use against the insects is almost as numerous as the number of pests. Dr. Bohart has been trying to find out which insecticide is best against each species of mosquito. He is testing seven of the most promising chemicals on the larvae of 15 of the most disagreeable insects, in as many combinations as possible. Testing each material on groups of larvae, he intends to find out

California Morbidity Report November, 1948

Civilian Cases

Reportable diseases	Week ending				Total cases	5-yr. median	Total cases
	11/6	11/13	11/20	11/27			
				Nov.		1943-1947 Nov.	Jan. Nov. 1948
Amebiasis (amoebic dysentery)...	10	7	8	12	37		
Anthrax.....							
Botulism.....							
Chancroid.....	4	7	5	7	23		
Chickenpox (varicella).....	380	271	397	440	1,497	1,468	27,300
Cholera, Asiatic.....							
Coccidioid granuloma.....	4		1		5		
Conjunctivitis—acute infectious of the newborn (ophthalmia neonatorum).....							
Dengue.....	14	8	7	6	35		
Diarrhea of the newborn.....	5	5	6	4	20	149	12,000
Diphtheria.....	12	12	6	17	47		
Dysentery, bacillary.....	1	2	1		4	7	1,000
Encephalitis, infectious.....	24	26	47	39	136		
Epilepsy.....		195	1	2	198		
Food poisoning.....	38	28	64	58	188		
German measles (rubella).....							
Glanders.....	342	428	515	524	1,809	2,110	24,000
Granuloma inguinale.....	3				1		
Influenza, epidemic.....	5	6	9	11	31	63	14,000
Jaundice, infectious.....	3	1	2	2	8		
Leprosy.....	1				1		
Lymphogranuloma venereum (lymphopathia venereum, lymphogranuloma inguinale).....	2	3	3	7	15		
Malaria.....		1		1	2		
Measles (rubella).....	200	140	210	187	737	504	62,000
Meningitis, meningococcal.....	3	7	6	5	21	35	1,000
Mumps (parotitis).....	461	366	517	547	1,891	1,270	20,000
Paratyphoid fever A, B & C.....	11	2	1	2	16		
Plague.....							
Pneumonia, infectious.....	14	14	26	17	71	149	1,000
Polio myelitis, acute anterior.....	277	206	252	190	925	111	1,000
Psittacosis.....							
Rabies, human.....							
Rabies, animal.....	2	4	1	4	11	23	1,000
Relapsing fever.....							
Rheumatic fever.....	8	3	11	15	37		
Rocky Mountain spotted fever.....		1			1		
Scarlet fever.....	71	68	91	88	318	758	2,000
Streptococcal sore throat.....	15	13	23	7	58		
Smallpox (varicella).....							
Syphilis.....	224	230	351	305	1,110	1,929	14,000
Tetanus.....							
Trachoma.....		1	13	1	15		
Trichinosis.....	1				1		
Tuberculosis, pulmonary.....	132	120	152	157	561	525	7,000
Tuberculosis, other forms.....	6	11	9	22	48	27	1,000
Tularemia.....							
Typhoid fever.....	4	5	3	4	16	12	1,000
Typhus fever.....							
Undulant fever (brucellosis).....	4	1	2	3	10	19	1,000
Whooping cough (pertussis).....	43	50	58	44	195	432	2,000
Yellow fever.....							
Spirochetal jaundice.....							
					10,096		214,000

the amount of chemical which will in each case kill all half of them and none. As each experiment must be repeated several times to permit the University of California scientists to come to a conclusion, many hundreds of test are necessary before Dr. Bohart will be able to come up with recommendations.

